An Overview of NASA SPoRT GOES-R Proving Ground & Risk Reduction Program Activities

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NASA's Short-term Prediction Research and Transition (SPoRT) Program has been supporting activities for the preparation of GOES-R (now GOES-16) since 2008. In 2016, SPoRT was involved in several assessments of GOES-R related products. This took place via direct collaborations with end users and product developers as well as with specific testbed locations and their associated satellite liaisons. This included the Hazardous Weather Testbed (HWT – Bill Line), Aviation Weather Center (AWC – Amanda Terborg), and the Operations Proving Ground (OPG – Chad Gravelle). In addition to specific products and tools, the initial demonstration of the AWIPS Integrated Reference (AIR) was conducted.

The use of multispectral Red-Green-Blue (RGB) composite imagery was a major component of activities throughout 2016 with efforts focusing at OPG and AWC. In particular, SPoRT and OPG collaborated to evaluate the utility of RGB imagery using cases derived from the AHI imager aboard the Himawari-8 satellite. This brought forecasters to OPG, with SPoRT personnel serving as subject matter experts, to assess the utility of these data using capabilities equivalent to the GOES-R Advanced Baseline Imager. Forecast issues included identifying small scale features such as fog, dust, and convective precipitation as well as other microphysical RGBs to assess cloud structure and type. This also served as the first demonstration of the AIR tool to bring supplemental and training material directly into AWIPS.

The pseudo-Geostationary Lightning Mapper product for GLM was evaluated with HWT and AWC. These efforts assessed the utility of these data to support severe weather warning decisions as well as aviation interests, such as convective monitoring, lightning safety, and terminal air route gate conditions. Separate SPoRT led efforts with local WFOs and CWSUs directly contributed to the material for the GOES-R Foundational Course training.

SPoRT has also supported external product developers. One has been the NESDIS Quantitative Precipitation Estimate (QPE) product. This was assessed with the National Drought Monitor using AHI observations. Also, the UAH Convective Initiation Product was assessed at HWT to monitor the development of convection.

Examples of these efforts, along with plans for the future will be presented.